

REMARKSI. Status of Claims

Claims 10-33 are pending in the present application.  
Claims 10-14, 20, 32, 33 have been withdrawn by the Examiner.

II. Request for Withdrawal of Restriction RequirementA. Linking Claim

In the event the restriction is not removed, it is submitted that Claim 30 is a linking/generic claim and upon allowance of that claim, the withdrawn claims 10-14, 20, 32, 33 should be examined. MPEP § 806.04(d). In particular it is be noted that withdrawn Claims 32-33 depend on Claim 30.

III. Response to Rejection of Claims 15-19 and 21-31

Claims 15-19 and 21-31 have been rejected under 35 USC 103 over Shellhammer '552 in view of Butterworth '241. This rejection is respectfully traversed.

A. Claims 15-19 and 21-28

Claim 15 is directed to an optical reader including:

a lens system for focusing along an optical path an image of an object being read;

a plurality of image sensor arrays disposed in the optical path for detecting a signal representative of light reflected from the object

through said lens system, wherein each of said image sensor arrays is disposed in a separate plane, each plane being disposed at approximately a same tilt angle  $\alpha$  with respect to the optical path according to the Scheimpflug principle, wherein each plane of said image sensor arrays is oriented at a different rotational angle to the optical path in relation to one another.

Claim 22 includes the limitations

means for focusing, along an optical path, an image of an object being read;

a plurality of image sensor arrays arranged about the optical path, each of said image sensor arrays being disposed in a separate plane, wherein each plane is arranged at approximately a same tilt angle  $\alpha$  with respect to the optical path according to the Scheimpflug principle, wherein each plane of said image sensor arrays is oriented at a different rotational angle to the optical path in relation to one another.

The combination of Shellhammer '552 and Butterworth '241 does not make out a prima facie case of

obviousness. Fig. 9 of Shellhammer '552 (reproduced to the right) illustrates a plurality of linear arrays 42, each linear array approximating a scan line, but each of the arrays 42 is disposed in

U.S. Patent Jan. 4, 1996 Sheet 7 of 9 5,523,552

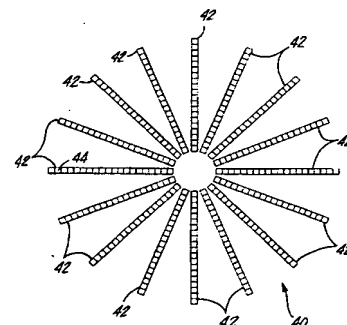


FIG. 9

the same plane in contrast to Claim 15 or 22 wherein each image sensor array is disposed in a separate plane and wherein each plane of said image sensor arrays is oriented at a different rotational angle to the optical path in relation to one another. Butterworth '241 may disclose a bar code scanner with a detector array 131 located in a Scheimpflug plane with respect to the imaging lens 133 (see, Butterworth '241 Fig. 1 reproduced to the right), but there is no suggestion in either Shellhammer '552 or Butterworth '241 to arrange a plurality of arrays in separate planes wherein each plane is oriented at a different rotational angle to the optical path in relation to one another.

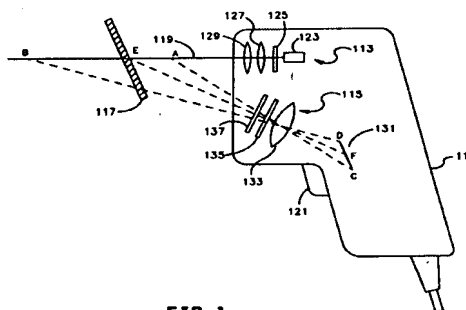


FIG 1

U.S. Patent  
Apr. 23, 1991  
Serial 1-072  
5,010,241

Therefore it is submitted that a *prima facie* case of obviousness is not made with respect to Claim 15 or Claim 22.

Dependent Claims 16-19, 20 and 23-28 should also be allowable in part as depending upon an allowable base claim.

#### B. Claims 29-31

Claim 29 is directed to a method of optical reading comprising the steps of

focusing, along an optical path, an image of  
an object being read;

arranging a plurality of image sensor arrays about the optical path with each of said image sensor arrays being disposed in a separate plane at approximately a same tilt angle  $\alpha$  with respect to the optical path according to the Scheimpflug principle, wherein each plane of the image sensor arrays is oriented at a different rotational angle to the optical path in relation to one another;

detecting, at each of the image sensor arrays, a signal representative of light reflected from the object.

In contrast, Shellhammer '552 (Fig. 9) illustrates a plurality of linear arrays 42, each linear array approximating a scan line, but each of the arrays 42 is disposed in the same plane.

Claim 30 is directed to a method of optical reading comprising the steps of

focusing, along an optical path, a two-dimensional image of an object being read;

projecting the two dimensional image toward a collection system comprised of one or more two-dimensional sensor arrays, each sensor array being arranged at a tilt angle  $\alpha$  with respect to the optical path according to the Scheimpflug principle;

detecting the two dimensional image at differing rotational angles relative to the optical path while maintaining the tilt angle  $\alpha$  of the sensor array with respect to the optical path.

In contrast, the detectors 42 of Shellhammer '552 Fig. 9 are linear arrays, each detecting essentially a linear section of the image (approximating a scan line across the image) and thus does not suggest detecting the two dimensional image at differing rotational angles relative to the optical path as in Claim 30.

Therefore it is submitted that a *prima facie* case of obviousness is not made with respect to Claim 29 or Claim 30.

Dependent Claim 31 should also be allowable in part as depending upon an allowable base claim.

#### IV. Removal of Finality of Rejection

In the prior 8/24/04 Office Action, claims were rejected based on a combination of Shellhammer '552 and Bremer '998. However, the Bremer '998 patent and the present application are indicated to be owned by the same entity, thus the Bremer '998 patent did not qualify as prior art under 35 USC 102(e).

Pursuant to MPEP §706.07(a):

Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement . . .

Since the Bremer '998 patent did not qualify as prior art under 35 USC 102(e), a new grounds of rejection must have been issued regardless of whether or not the claims were amended.

Therefore, the new ground of rejection was "neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement" and pursuant to MPEP §706.07(a) the finality rejection of the 2/23/05 Office Action was premature and should be removed.

V. Conclusion

Therefore it is submitted that Claims 15-19 and 21-31 are allowable.

Upon allowance of linking Claim 30, it is submitted that pursuant to MPEP § 806.04(d), the restriction should be withdrawn and withdrawn Claims 10-14, 20 and 32-33 should be examined.

Respectfully submitted,

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